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PRE-APPEAL BRIEF REQUEST FOR REVIEW		Docket Number (Optional) CH920020037US1	
I hereby certify that this correspondence is being deposited with the United States Postal Service with sufficient postage as first class mail in an envelope addressed to "Mail Stop AF, Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450" [37 CFR 1.8(a)] on _____ Signature _____ Typed or printed name _____	Application Number 10/539,726	Filed July 19, 2006	
	First Named Inventor Amontov et al.		
	Art Unit 1637	Examiner Angela Marie Bertanga	

Applicant requests review of the final rejection in the above-identified application. No amendments are being filed with this request.

This request is being filed with a notice of appeal.

The review is requested for the reason(s) stated on the attached sheet(s).

Note: No more than five (5) pages may be provided.

I am the

☐ applicant/inventor.

☐ assignee of record of the entire interest.
See 37 CFR 3.71. Statement under 37 CFR 3.73(b) is enclosed.
(Form PTO/SB/96)

☒ attorney or agent of record.
Registration number 57,749

☐ attorney or agent acting under 37 CFR 1.34.
Registration number if acting under 37 CFR 1.34 _____


Signature

Michael J. Cooper
Typed or printed name

203-255-6560
Telephone number

April 21, 2010
Date

NOTE: Signatures of all the inventors or assignees of record of the entire interest or their representative(s) are required. Submit multiple forms if more than one signature is required, see below*.

☐ *Total of _____ forms are submitted.

This collection of information is required by 35 U.S.C. 132. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.11, 1.14 and 41.6. This collection is estimated to take 12 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Mail Stop AF, Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

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IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Patent Application

5 Applicant(s): Amontov et al.
Case: CH920020037US1
Serial No.: 10/539,726
Filing Date: July 19, 2006
Group: 1637
10 Examiner: Angela Marie Bertagna

Title: Surface Treatment

15 MEMORANDUM IN SUPPORT OF
PRE-APPEAL BRIEF REQUEST FOR REVIEW

20 Mail Stop AF
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

25 Sir:

The present invention and prior art have been summarized in Applicants' prior responses.

STATEMENT OF GROUNDS OF REJECTION TO BE REVIEWED ON APPEAL

30 The present patent application was filed on July 19, 2006 (claiming priority to
International Patent Application PCT/IB2003/005129 filed on November 13, 2003 and
published in English with Publication No. WO 2004/056470 A1 on July 8, 2004, under
PCT article 21(2), which in turn claims priority from European Application No.
02028555.7, filed on December 20, 2002) with claims 1-23, of which claims 1 and 23
were independent claims. Claims 23 was withdrawn in response to a previous restriction
35 requirement and Applicants previously canceled claims 2, 3, 15, 16, 18 and 19 without
prejudice. Claims 1, 4-14, 17 and 20-23 are presently pending.

40 The Advisory Action dated 4/09/10 alleges that the information disclosure
statement filed March 22, 2010 fails to comply with 37 CFR 1.97(d) because it lacks a
statement as specified in 37 CFR 1.97(e). Also, claims 1, 4-7, 9, 10, 14, 17 and 20-22 are
rejected under 35 U.S.C. §102(b) as allegedly being anticipated by Church (US

6,432,360) (“Church”). Claim 8 is rejected under 35 U.S.C. §103(a) as allegedly being unpatentable over Church in view of Richter et al. (Advanced Materials (2000) 12(7): 507-510) (“Richter”). Claims 11 and 13 are rejected under 35 U.S.C. §103(a) as allegedly being unpatentable over Church in view of Korlach et al. (US 2003/0044781) (“Korlach”). Further, claim 12 is rejected under 35 U.S.C. §103(a) as allegedly being unpatentable over Church in view of Mian et al. (US 5,686,271) (“Mian”).

ARGUMENTS

Applicants note the information disclosure statement in question was originally filed on October 9, 2009 with a Certification Statement in compliance with CFR 1.97(e)(1). In the Office Action dated 1/21/10, the Examiner acknowledged the submission, but stated that three of the cited references were not considered because a legible copy of each was not provided. On 3/22/10, Applicants resubmitted the three foreign references in question in an IDS with legible copies of each. As such, Applicants respectfully submit that, because the references in question were originally filed with a Certificate Statement in compliance with 37 CFR 1.97(e)(1), the references in question should properly be considered. Nonetheless, in parallel with the present response, Applicants are re-submitting a corrected version of the IDS with a new Certificate Statement as well as a copy of the Certificate Statement filed with the original IDS.

Claim Rejections Under 35 USC §102(b)

Independent claim 1 was rejected under 35 U.S.C. 102(b) as allegedly being anticipated by Church. Regarding the Examiner’s assertion, on page 4, the Office Action dated January 21, 2010 states that

Church further teaches that the monolayer produced via the disclosed method does not comprise diffusive seed molecules that can relocate and destroy amplification accuracy (column 15, lines 24-36; see also, column 7, lines 3-21...).

Applicants respectfully assert that column 15, lines 24-36 of Church merely reference “physical limitations on diffusion,” which is clearly distinct from the “the monolayer of molecules on the flat surface has no diffusive seed molecules that can relocate” language explicitly included in claim 1.

Further, the Advisory Action dated April 9, 2010 states that

5 the replica transfer and amplification steps taught by Church at columns 8-15 produce a homogeneous monolayer of nucleic acid molecules having the same length that are attached to a flat surface. The teachings of Church at columns 9 and 15... indicate that the seed molecules transferred in the method of Church cannot relocate and destroy amplification accuracy, since each different seed molecule is confined to a particular area of the flat surface.

10 Applicants respectfully submit that the limitations cited in the Church reference are distinct from those explicitly taught in independent claim 1. As noted, claim 1 expressly teaches “the monolayer of molecules on the flat surface has no diffusive seed molecules that can relocate...” (Emphasis added) However, on column 15, lines 58-60, Church explains that “a replica serves as a master for subsequent steps like step 4, limited by the diffusion of the features and the desired feature resolution.” (Emphasis added)
15 Further, Applicants note that in column 9, lines 32-34 of the Church reference, it is taught that “a molecule that is immobilized at one end can, at most, diffuse the distance of a single molecule length during each round of replication.” (Emphasis added) As such, Applicants respectfully submit that Church does not teach or suggest the limitation of producing a “monolayer comprises producing a homogeneous area, wherein the
20 homogeneous area comprises a monolayer of molecules on the flat surface, and wherein the monolayer of molecules on the flat surface has no diffusive seed molecules that can relocate and destroy amplification accuracy.”

Consequently, Applicants respectfully submit that Church does not teach or suggest all of the limitations of amended claim 1. “A claim is anticipated only if each
25 and every element as set forth in the claim is found, either expressly or inherently described, in a single prior art reference.” *Verdegaal Bros. v. Union Oil Co. of California*, 814 F.2d 628, 631, 2 USPQ2d 1051, 1053 (Fed. Cir. 1987).

Applicants point to the specification (for example, at page 14, lines 25-28), wherein it describes that primers are prevented from lateral diffusion through anchors on
30 the source surface as well as on the target surface and also during the self-completing amplification. As taught in claim 1, the self-completing amplification process is performed and without that the primers become diffusible. As such, the techniques can be performed on a flat surface directly exposed to the soluble fraction of the replication mix with no need for a compartmentalization during the replication process.

Applicants also assert that Church does not teach or disclose self-completing amplification, printing to a flat surface, or production of a homogeneous monolayer. As previously noted, Church discloses techniques using swollen gels as the soft transfer medium (for example, polyacrylamide, cellulose, polyamide (nylon) and cross linked agarose, dextran, and polyethylene glycol). (See, column 9, lines 26-27 (“a semi-solid medium (such as a polyacrylamide gel)”). All such materials require a large fraction of water to be able to adsorb nucleic acids in the matrix. Independent claim 1, however, discloses a transfer medium that cannot be formulated into a gel and which carries the nucleic acids on the surface and not attached to a three-dimensional matrix.

Applicants also submit that self-completing amplification cannot exist in a setting such as taught by Church because the surface in a gel is larger than on a flat surface such that it would not be possible to saturate the gel matrix and run into a self-completion. Also, claim 1 teaches a printing process from a source surface to a target surface, which has a higher lateral resolution than the gel transfer techniques taught by Church.

Thus, Applicants respectfully request withdrawal of the section 102 rejection of the independent claim.

Dependent Claims

Because independent claim 1 is patentable, dependent claims 4-7, 9, 10, 14, 17 and 20-22, which depend from independent claim 1, include all limitations of independent claim 1 and are therefore also patentable.

Claim Rejections Under 35 U.S.C. §103(a)

Claim 8 is rejected under 35 U.S.C. §103(a) as allegedly being unpatentable over Church in view of Richter. Claims 11 and 13 are rejected under 35 U.S.C. §103(a) as allegedly being unpatentable over Church in view of Korlach. Also, claim 12 is rejected under 35 U.S.C. §103(a) as allegedly being unpatentable over Church in view of Mian.

Applicants respectfully submit that, as detailed above, Church does not teach or suggest every claim limitation of amended independent claim 1. For example, Church does not teach or suggest the limitation of self-completing amplification of the seed molecules via an amplifying reaction to produce the monolayer on the flat surface, wherein self-completing amplification of the seed molecules via an amplifying reaction to produce the monolayer comprises producing a homogeneous area, wherein the

homogeneous area comprises a monolayer of molecules on the flat surface, and wherein the monolayer of molecules on the flat surface has no diffusive seed molecules that can relocate and destroy amplification accuracy. To establish *prima facie* obviousness of a claimed invention, all the claim limitations must be taught or suggested by the prior art.

5 *In re Royka*, 490 F.2d 981, 180 USPQ 580 (CCPA 1974). Furthermore, if an independent claim is nonobvious under 35 U.S.C. 103, then any claim depending therefrom is nonobvious. *In re Fine*, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988).

Further, with respect to the rejection of dependent claim 8, Applicants respectfully submit that there exists a lack of motivation to combine these two references.
10 By way of example, DNA replicated in a gel (as taught in Church) cannot be metallized in a similar fashion such as taught in Richter. As such, the motivation for one of ordinary skill in the art to combine these two references is lacking. Additionally, while the Advisory Action states that “the methods of Church are not limited to gels,” Applicants point to column 9, lines 47-49, wherein it states that “[t]he support structure comprises a
15 semi-solid (i.e. gelatinous) lattice or matrix....”

Thus, Applicants respectfully request withdrawal of the section 103 rejections of the noted claims.

Conclusion


All of the pending claims, i.e., claims 1, 4-14, 17 and 20-23, are in condition for
20 allowance and such favorable action is earnestly solicited.

If any outstanding issues remain, or if the Examiner has any further suggestions for expediting allowance of this application, the Examiner is invited to contact the undersigned at the telephone number indicated below.

The Examiner’s attention to this matter is appreciated.

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Respectfully submitted,



Date: April 21, 2010

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